



## ABSTRACT OF THE DISCLOSURE

A thermal measurement device for obtaining accurate thermal profiles during flip-chip semiconductor packaging and methodologies for making such devices is 5 disclosed. Particularly, a measurement device comprised of a thermocouple sandwiched between a semiconductor packaging substrate and a semiconductor die. Such a device providing increased accuracy in temperature measurement. The present invention also teaches a 10 packaging substrate assembled with a semiconductor die having an opening in the substrate enabling the placement of a thermocouple such that it is in contact with the die and secured in place. Additionally, methods of constructing the devices of the present invention are 15 disclosed.

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